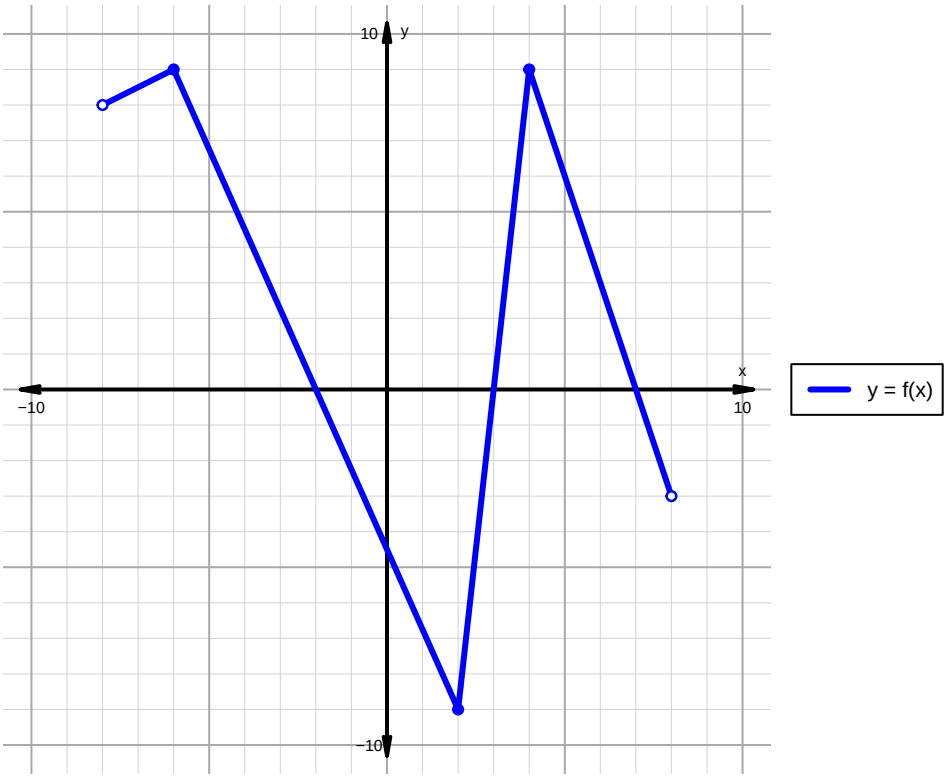
Name: Date:

Intervals, Transformations, and Slope Solution (version 98)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-8,-2)\cup(3,7)$
Negative	$(-2,3)\cup(7,8)$
Increasing	$(-8,-6)\cup(2,4)$
Decreasing	$(-6,2)\cup(4,8)$
Domain	$(-8,8)$
Range	$(-9,9)$

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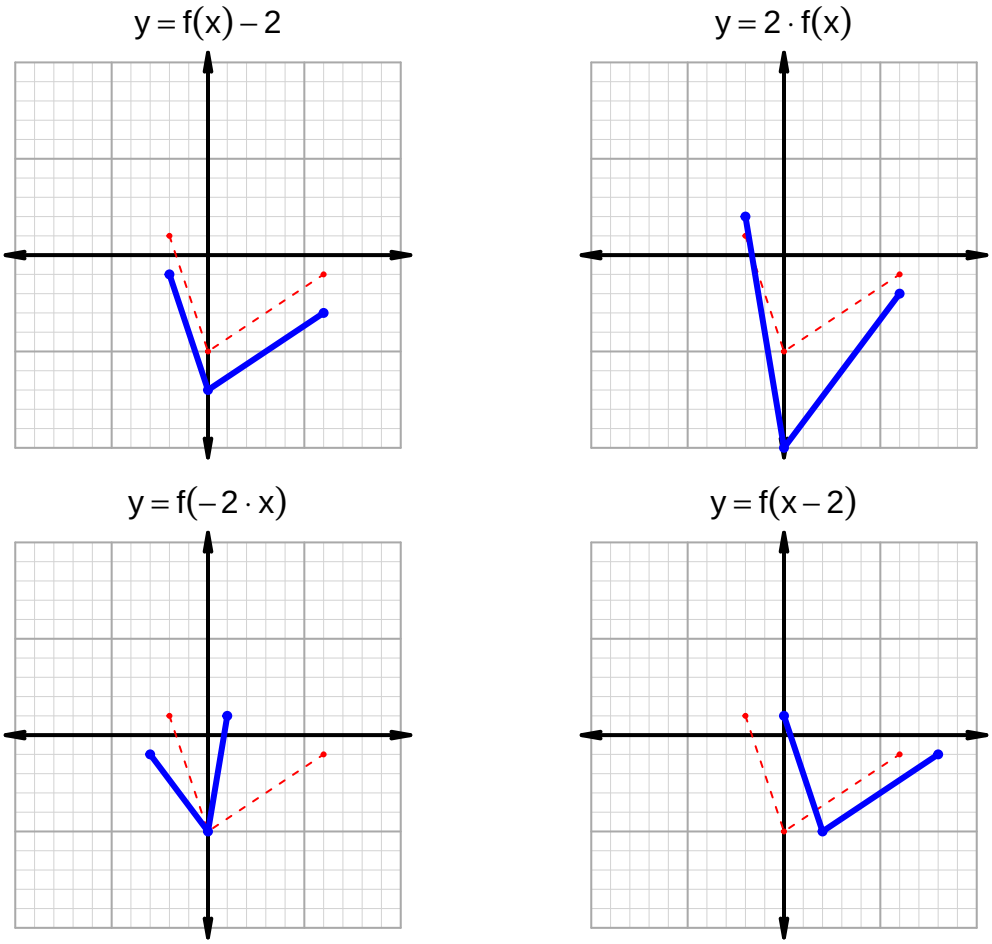
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 23$ and $x_2 = 79$. Express your answer as a reduced fraction.

x	$g(x)$
4	23
23	53
53	79
79	4

$\frac{g(79)-g(23)}{79-23} = \frac{4-53}{79-23} = \frac{-49}{56}$

The greatest common factor of -49 and 56 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{8}$$